

Appl. Serial No. 09/054,864
Reply Filed: October 31, 2007
Final Office Action mailed: July 2, 2007

REMARKS

In reply to the Final Office Action mailed July 2, 2007, and in view of the foregoing amendments and following remarks, reconsideration is requested.

Claims 5 and 19-54 remain in the application of which claims 5, 24, 30, 36, 42 and 43 are independent. No fee for claims is required with this Reply.

Rejections under 35 USC § 102

Claims 5-18, 21, 23-24, 27, 29-30, 33, 35-36, 39, 41, 43-44, 49-52 and 54, of which claims 5, 24, 30, 36 and 43 are independent, were rejected under 35 USC § 102 in view of US Patent 6,279,061 (hereinafter, "Aoki"). While the Final Office Action refers to claims 6-18 as being rejected, Applicant believes that this is a typographical error, as claims 6-18 were previously cancelled. The rejection is respectfully traversed.

The Final Office Action maintains that the following passage of Aoki (col. 4, lines 35-52) teaches using *frame-by-frame flow control over a high-speed serial bus*:

"The LINK 52 reads out the image data from the FIFO memory 61 on a frame-by-frame basis, packetizes the read-out image data, and output[s] resulting packets to the PHY 51. The PHY 51 transmits those packets via the 1394 Bus 11 as isochronous packets, whereby the packets are supplied to the editor 1."

As noted in the Applicant's prior replies, the transfer of video data over the 1394 bus is accomplished using standard 1394 isochronous data packets. See Aoki col. 5, lines 10-11 and col. 6, lines 18-20. Although Aoki teaches that image data is read from the FIFO memory 61 on a frame-by-frame basis, it does not teach that the image data is sent using frame by frame flow control over the high speed serial bus. Instead Aoki states that "[t]he PHY 51 transmits those packets via the 1394 Bus 11 as isochronous packets." Col. 4, lines 35-52. If the packets of image data are sent over the 1394 Bus 11 as isochronous packets, then under the 1394 standard there is no request/reply protocol for sending isochronous packets, and no frame-by-frame control of that transmission.

More particularly, the 1394 standard does not use request packets that indicate a request from the video processing device to transfer video data defining a video frame, in response to which a plurality of data packets including the video data defining the requested video frame from the memory are sent to the video processing device over the high speed serial bus, as claimed.

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Therefore, *frame by frame flow control* is NOT used over the *high speed serial bus*, as required by independent claims 5, 24, 30, 36 and 43.

The Final Office Action interprets the 1394-based implementation of Aoki in view of comments made in the present application that relate to video interconnects such as SMPTE 259M and SMPTE 292M. The specification says, in this context, that "one link is used to send requests to a video source device and another link is used by the video source device to send video data." Page 18, lines 12-14. In this context, one will understand from the present application that "the transfer [of video data over the other link] may be either of the continuous form or the isochronous form." This portion of the application does not state that isochronous transfer alone constitutes frame-by-frame flow control.

The Final Office Action also considers the PLAY command of Aoki to meet the claim language noted above regarding transmission of a request packet and subsequent data packets. Aoki initiates playback of video by having the host device send a "PLAY" command to the conversion device. This "PLAY" command is not "request packets" (plural) as claimed. The claim states that "request packets" (plural) are used, one for each video frame. The Final Office Action even states that the "PLAY" command is "a" request for video data; the claims however say there are plural "request packets," and each one requests a frame of video, and each is responded to with a plurality of data packets with the data for the frame of video. Thus Aoki's mere "PLAY" command plainly does not meet the claim limitations.

In view of the foregoing, the rejection of independent claims 5, 24, 30 and 36 is traversed. Dependent claims 21, 23, 27, 29, 33, 35, 39 and 41 are distinguishing over Aoki for at least the same reasons.

Regarding independent claim 43 and dependent claim 44, Applicant repeats the arguments from the prior reply. In particular, the transaction request/response process of IEEE-1394 merely confirms that source and destination nodes can communicate. Claim 43 requires, in contrast, request packets that indicate a device has "sufficient memory available for receiving video data". Also, in claim 43, in response to *each* request packet, the host device sends video data. In the transaction request/response process in IEEE-1394, there is no packet that would cause the conversion device 2 of Aoki to respond by sending video data to its host device 1. Thus the packets sent during the transaction request/response process in IEEE-1394 do not meet

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the limitations of the claims "request packets" and "data packets" sent in response to such "request packets", as recited in claim 43.

Regarding dependent claim 44, the Office Action equates the packet information from a source node sent during bus arbitration, which includes speed information, to the claimed "packet rate field." However, claim 44 recites that "the request packets include a packet rate field that specifies a packet rate at which the host device is to send the video data to the video processing device." In response to *each* request packet (defined further in claim 43), the claimed host device sends data packets with video data. The speed information sent between devices during bus arbitration in Aoki is not included in "request packets" as such request packets are defined in claims 43/44, namely a packet which a. "indicates that the video processing device has sufficient memory available to be capable of receiving video data of a video frame" and b. "includes a packet rate field that specifies a packet rate at which the host device is to send the video data to the video processing device," and c. causes the host to send, "in response to a request packet, data packets including the video data of a video frame from the memory to the video processing device" as claimed. In other words, the speed information exchanged in Aoki during bus arbitration is not exchanged in messages that actually request and transfer the video data as recited in claims 43 and 44.

In view of the foregoing, Aoki does not anticipate claims 43 and 44.

The Final Office Action asserts on page 3 that the transaction request/response in the arbitration sequence of IEEE-1394 still anticipate these claims. However, the Office Action fails to address the actual claim language, as set forth above. For example, in claim 43, *each* request packet indicates that the device has "sufficient memory available to receive video data." Claim 43 requires a plurality of requests. In claim 43, video data is sent in response to such request packets. The arbitration sequence of IEEE-1394 does not involve sending video data in response to transaction requests. These requests do not indicate whether the device has sufficient memory available to receive video data. A mere request/reply protocol to establish a communication link as in the arbitration sequence of IEEE-1394 clearly does not meet the claim language. Whether video data may be subsequently transferred after such a communication link is established does not meet the claim language which requires packets that actually request and transfer the video data.

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Regarding dependent claims 21, 27, 33 and 39, Applicant repeats and expands on the arguments made in the prior reply, and respectfully requests a response to the substance of these arguments. In particular, the Office Action asserts that the "Destination_ID" in Fig. 2 of Aoki corresponds to the claimed "target field." In Aoki, the Destination_ID indicates the destination to which a packet is being sent. Thus, in Aoki, if a packet is being sent from the conversion device 2 to the host device 1, then the Destination_ID field in the packet would indicate the host device 1. Under IEEE-1394, the host device 1 reads a packet from the bus if the packet's Destination_ID field indicates the host device; otherwise the host device ignores the packet. In contrast, claim 21 recites that the target field (which is in a data packet that includes the video data and that is sent from the host device to the video processing device – see claim 5) "indicat[es] a device to which the video processing device is directed to transfer the video data." In other words, the recipient of the data packet receives information about yet another device to which it is directed to further transfer the video data. Similar interpretations apply to claims 27, 33 and 39. The destination_ID in Aoki does not meet this limitation and the rejection of claims 21, 27, 33 and 39 are traversed for at least this additional reason.

It also is noted that claims 49-52 and 54 were "analyzed with respect to apparatus claim" 5 or 24. See Final Office Action page 7. The substance of these claims (and similar dependent claim 53) was never addressed in the Final Office Action. Applicant's arguments regarding their patentability were presented in the prior reply.

In view of the foregoing, this rejection of claims 5, 21, 23-24, 27, 29-30, 33, 35-36, 39, 41, 43-44, 49-52 and 54 is traversed.

Rejections under 35 USC §103

Claims 19-20, 25-26, 31-32, 37-38 and 45-48 were rejected under 35 USC §103 in view of Aoki and US Patent 5,241,382 ("Paik"). These rejections are respectfully traversed.

All of these claims 19, 20, 25, 26, 31, 32, 37, 38 and 45-48, are dependent claims. These claims are patentable for at least the same reasons, stated above, as the independent claims from which they depend.

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Rejections under 35 USC §103

Claims 22, 28, 34, 40, 42 and 53, of which claim 42 is independent, were rejected under 35 USC §103 in view of Aoki and US Patent 6,105,083 ("Kurtze"). These rejections are respectfully traversed for the same reasons as provided in the prior reply, which are repeated below. Applicant respectfully requests a response to the substance of these arguments.

The discussion above regarding Aoki's lack of frame by frame flow control over the high speed serial bus, such as recited in independent claim 42, is applicable. Because Kurtze is not relied upon for teaching this limitation, this rejection of independent claim 42 is traversed for at least the same reasons as discussed above in connection with the other independent claims.

Regarding dependent claims 22, 24, 28 and 40, these claims are patentable for at least the same reasons as the independent claims from which they depend.

In addition, Kurtze teaches a video processing device with a clocked signal interface between two components. This signal interface includes lines with data signals, a line with a valid data signal and a line with a boundary signal. See Fig. 1 of Kurtze. A timing diagram of this interface is shown in Fig. 2C of Kurtze, which is described at col. 7, lines 28-43 of Kurtze. Kurtze does not teach a packet based request/reply architecture. Instead, in Kurtze, data is transferred between devices when control signals from both of the devices are both asserted upon the same clock edge. See Kurtze, Col. 5, line 59 to Col 6, line 17.

There is no sustainable reason provided in the Final Office Action for modifying Aoki according to the teachings of Kurtze. The Final Office Action refers to Col. 2, lines 25-30 of Kurtze as a reason for applying Kurtze's boundary signal to Aoki. However, this portion of Kurtze indicates the benefits of Kurtze's hardware interface, not of boundary signals. It would not be reasonable for one of ordinary skill in the art to expect to achieve the benefits of Kurtze's hardware interface (as stated at Col. 2 lines 25-30 of Kurtze) by finding a way to implement Kurtze's boundary signal in a packet-based communication protocol such as in Aoki.

It also is noted that claim 53 "is analyzed with respect to apparatus claim 42." The substance of this claim (and similar dependent claims 49-52 and 54) was never addressed in the Final Office Action. Applicant's arguments regarding its patentability were presented in the prior reply.

In view of the foregoing, the rejection of claims 22, 28, 34, 40, 42 and 53 is traversed.

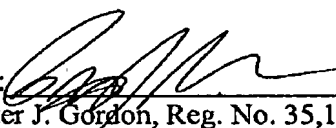
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CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this reply, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, please charge any fee to **Deposit Account No. 50-0876**.

Respectfully submitted,

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